



DESIGN & CONSTRUCTION STANDARD SPECIFICATIONS

General and Special Conditions

Section 1

OFFICE OF:
CHIEF ENGINEER – DESIGN AND CONSTRUCTION
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DESIGN & CONSTRUCTION STANDARD SPECIFICATIONS

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Table of Contents

SAFETY TRAINING SPECIFICATIONS FOR OUTSIDE CONTRACTORS	3
SCOPE	4
RIGHT OF ENTRY ON CSXT PROPERTY	4
EVIDENCE OF INSURANCE	4
CHANGES IN RAILROAD FACILITIES.....	4
PROTECTION OF RAILROAD OPERATIONS	5
RAILROAD ENGINEERING AND INSPECTION.....	6
ADVANCE PAYMENT OF RAILROAD SERVICES	6
TEMPORARY GRADE CROSSING	7
AUTHORITY OF RAILROAD AND HIGHWAY ENGINEER	7
INTERFERENCE WITH RAILROAD OPERATIONS.....	7
NOTICE OF STARTING WORK.....	8
WORK FOR THE BENEFIT OF THE CONTRACTOR.....	8
HAUL ACROSS RAILROAD	8
COOPERATION AND DELAYS.....	8
DAMAGES	9
STORAGE OF MATERIALS AND EQUIPMENT	9
CONSTRUCTION PROCEDURES.....	9
FLAGGING / INSPECTION SERVICE	10
CLEANING UP	11
FAILURE TO COMPLY	11
SHEETING AND SHORING REQUIREMENTS.....	11
ERECTION, HOISTING AND DEMOLITION REQUIREMENTS	13
OVERHEAD BRIDGE REQUIREMENTS	14
DRAINAGE	15
EROSION CONTROL	16
ADDITIONAL REFERENCES	16

Safety Training Specifications for Outside Contractors

Effective February 10, 2000, all CSXT contractors, performing work on CSXT operating right-of-way are required to conform to the Federal Regulation covering On-Track Worker Safety.

Companies under contract to CSXT are required to comply with the requirements of the Federal Railroad Administration, Roadway Worker Protection, 49 Code of Regulation (CFR), Part 214, including, without limitations, the training and qualification requirements, and with the FRA's On-Track Safety Program.

Required Safety Training may be accomplished by one of either of two methods:

- Contractors may teach their company's course. CSXT's Safety Program Administrator must approve all such training courses for compliance with the Regulations and CSXT Safety requirements.
- Contractors may obtain training from CSXT's approved Safety Program.
- As a condition to working under contract with CSXT, a list of approved safety training programs is available from the Program Administrator.

Contractors working for CSXT or on a CSXT project hereby acknowledge that employees and sub-contractors are defined as Roadway Workers as specified by the following definition (excerpt from Regulation).

“Roadway Worker means any employee of a Railroad, or of a **CONTRACTOR** to a Railroad, whose duties include inspection, construction, maintenance or repair of railroad track, bridges, roadway signal and communication systems, electrical traction systems, roadway facilities or roadway maintenance machinery on or near track or with the potential of fouling a track.”

The one exception to this Policy Statement would be where the Contractor's activity locates their employees in an “**ABSOLUTE NO-FOUL**” situation or activity. For purposes of this policy, the definition of an ABSOLUTE NO-FOUL zone is where the Contractor employees or equipment will never be nor have the potential of being closer than 25 feet from any live operating track. An approved temporary safety fence is required to be erected and maintained for the duration of the project along the 25-foot boundary to ensure compliance.

Scope

CSXT owns and uses its right-of-way for the primary purpose of operating a railroad. Therefore all work shall be done in a manner such that rail operations and facilities are not interfered with, interrupted or endangered. In addition, any facilities that are a result of the proposed work shall be located to minimize encumbrance to the right-of-way so that CSXT will have unrestricted use of its property for current and future operations. The sponsor of the project shall be ultimately responsible for assuring that its agents, consultants, contractors, and sub-contractors fully comply with the specifications contained herein. The term 'sponsor' used throughout these specifications shall mean the sponsor, its employees, its agents, consultants, contractors, sub-contractors, etc.

The following terms and conditions shall apply to any project, which requires performance of work on the right-of-way or other property of CSXT.

Right of Entry on CSXT Property

No entry upon CSXT property shall be permitted without the proper authorization by CSXT to the sponsor in the form of an agreement or a proper right of entry prepared by CSXT. The applicant shall pay the associated fees and execute the right of entry prior to entering CSXT property. The location and design of that portion of the access route to the work site that is on CSXT property shall be shown clearly on any plans for the project and must be approved by CSXT.

The issuance of a right of entry does not constitute authority to proceed with any construction work. Construction cannot begin until a formal agreement between CSXT and the sponsor is executed, and the sponsor receives permission from CSXT's representative to proceed with the work.

Evidence of Insurance

CONTRACTOR shall send evidence of all required bond and insurance coverage with the signed contract to RAILROAD. The evidence of bond and insurance coverage shall be endorsed to provide for thirty (30) days notice to RAILROAD prior to cancellation or modification of any policy or bond. The Certificate of Insurance shall refer to the liability assumed by CONTRACTOR on the Certificate. Copies of Additional Insured and Waiver of Subrogation endorsements shall be attached to the certificate.

Changes in Railroad Facilities

Temporary and permanent changes of signal, communication, power transmission lines, trailers, drainage and other railroad facilities are required in connection with the project to clear temporary and/or permanent work of the sponsor as shown on the approved construction plans, shall be made or caused to be made by CSXT at the sole cost and expense of the sponsor in accordance with CSXT's force account estimate. See Section 4: General and Special Conditions, Advance Payment of Railroad Services. Any other changes made or services furnished by CSXT at the request of the sponsor shall be the sole cost and expense of the sponsor.

Protection of Railroad Operations

The sponsor shall conduct the work in such a manner as to safeguard the operations, facilities, right-of-way and property of CSXT. All work affecting the above items shall be subject to the approval of CSXT. The sponsor's operations adjacent to, over or under CSXT's tracks, facilities, right-of-way, and property shall be governed by CSXT's standards and by such other requirements as specified by CSXT's representative so as to insure the safe operation of trains, prevent delay to trains and insure the safety of all concerned, including the sponsor's forces.

An operating track shall be considered obstructed or fouled when any object is brought closer than eight (8) feet horizontally from the centerline of track and projects above the top of tie or as determined by CSXT's representative. A power line shall be considered fouled when any object is brought to a point less than eight (8) feet therefrom. A signal line shall be considered fouled when any object is brought nearer than six (6) feet to any wire or cable. Cranes, trucks and other equipment shall be considered as fouling the track, power line or signal line when failure of equipment, whether working or idle, with or without load, will obstruct the track or other CSXT facilities. CSXT owned underground utilities will be located by railroad employees at the sponsor's cost.

Equipment used by the sponsor shall be in first-class condition to preclude any failure that would cause interference with the operation of CSXT trains or damage to its facilities. The sponsor's equipment shall not be placed or put in operation adjacent to the tracks or facilities of CSXT without obtaining approval from a CSXT's representative. All such equipment shall be operated by the sponsor in a manner satisfactory to CSXT. No equipment or material shall be stored on CSXT property.

In general, a flagman is necessary in the following circumstances: (1) the driving of sheeting or piles within twenty five (25) feet of the tracks; (2) the removal or demolition of all or part of an overhead or adjacent structure; (3) the erection of any structural material, or (4) the performance of any other operation that could obstruct or foul (as described above) the tracks or other facilities of CSXT as determined by CSXT's representative.

Minimum overhead and lateral clearances as specified by CSXT shall be maintained during the performance of all work. Existing overhead and lateral clearances shall be maintained during construction unless a temporary reduction in clearance for construction purposes is approved, in writing, by CSXT. The sponsor shall erect a highly visible construction fence no closer than fifteen (15) feet from the centerline of the track through the work area to insure that the lateral clearance requirement is being met.

All wire and attachments shall be treated as live unless notified by CSXT's representative that it has been grounded and de-energized. Particular attention shall be given to the use of hand lines containing metal strands, which cannot be used when working near or above exposed live wires. When working over wires, tools and materials not in use shall be stored in a manner to prevent them from falling. Tools or materials shall not be thrown to or by men working over the wires. The sponsor shall be responsible for locating and protecting all underground facilities.

Painting and paint removal procedures shall be approved by the CSXT and inspected by CSXT's representative prior to beginning the work over railroad right-of-way. The sponsor shall protect the track structure and railroad property from any material used in conjunction with performing the work. A flagman shall be required whenever the above-described work fouls or is likely to foul the track, as previously defined.

The sponsor shall give notice to CSXT's representative at least thirty (30) days in advance of the time work is to be commenced. CSXT shall assign, at the sole cost and expense of the sponsor, conductors and/or flagmen or other similar qualified employees to protect CSXT's trains and facilities when in the opinion of its representative, the construction work will cause or may cause a hazard to CSXT facilities and the safe operation of trains. No operations of the sponsor shall be carried out without all the necessary protection to properly safeguard the work.

The minimum hours per day for railroad employees engaged in flagging service shall be eight (8) hours. The overtime rate will be charged for all time in excess of eight (8) hours. Flagmen are paid from the time they leave headquarters until they arrive back at headquarters. The travel time to and from project site is known as "deadheading" and is paid at full rate of pay, plus travel expenses.

The providing of flagmen or inspectors or the taking of other precautionary measures, shall not, however, relieve the sponsor from liability for payment of damages caused by their operations. The sponsor must obtain permission from the flagman before fouling or obstructing any track.

The sponsor shall be responsible for damage to CSXT facilities or property arising out of the execution of its work. CSXT shall undertake any necessary repair work at the sole cost and expense of the sponsor. Billing for the work shall be in accordance with CSXT's standard billing procedures.

CSXT labor shall be charged to sponsor at actual rate plus amount paid for insurance, railroad retirement, excise tax, vacation allowance, holidays, health and welfare benefits, small tools, 401k payment and overhead in accordance with CSXT's standard billing procedures. Materials shall be charged to the sponsor at actual cost to CSXT plus transportation costs, handling expense and applicable taxes.

Railroad Engineering and Inspection

CSXT, at its sole discretion, may assign an engineer or inspector for the general protection of railroad property and operations during the construction of the project. This inspection service shall be supplied at the sole cost and expense of the sponsor.

Advance Payment of Railroad Services

It is a requirement that the sponsor shall reimburse CSXT in advance for work undertaken by CSXT in accordance with any provision of these special requirements. Final contract payment shall not be made by the sponsor to its contractor, sub-contractor, consultant or agent, until CSXT certifies that all railroad bills against them, if any, have been paid in full. Estimates for services to be provided will be given to sponsor from CSX and will be paid before any work shall begin.

Temporary Grade Crossing

Under most circumstances, a temporary grade crossing of CSXT track(s) will not be permitted. Should the sponsor demonstrate a necessity for a temporary grade crossing of CSXT's tracks, the sponsor shall be required to apply for and execute the standard private grade crossing agreement for each crossing required. Application for the crossing shall be made to CSXT at least twelve (12) weeks before the crossing is required and addressed to:

CSX Transportation
500 Water Street
Jacksonville, Florida 32202
Attn: Property Services

A letter size plan showing the location, size, construction details, and access to the requested crossing should accompany the letter of application. The plan shall be fully detailed and dimensioned with all CSXT facilities shown and referenced. The sponsor shall state the purpose for which the crossing is needed and the expected life of the crossing. All application fees, construction, maintenance, protection and removal costs shall be at the sole cost and expense of the sponsor. The roadbed and all other CSXT facilities shall be restored to the original condition subject to the approval of CSXT's designated representative.

Authority of Railroad and Highway Engineer

An authorized representative of CSXT, hereinafter referred to as Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of Railroad traffic and his approval shall be obtained by the Contractor for methods of construction with least interference to traffic.

An authorized representative of the Governmental Agency, hereinafter referred to as the Highway Engineer, shall have authority over all other matters as prescribed herein and in the agencies' Standard Specifications, current edition, that govern this project.

Interference with Railroad Operations

The Contractor shall arrange and conduct his work so that there will be no interference with operations, including train, signal, telephone and telegraphic services, or damage to the property of the railroad, or to poles, wires, and other facilities of tenants on the right-of-way of the railroad. The Contractor shall store materials so as to prevent trespassers from causing damage to trains, or railroad property. Whenever work is likely to affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval but such approval shall not relieve the Contractor from liability.

Should conditions arising from or in connection with the work require that immediate and unusual provisions be made to protect train operation and property of CSXT, it shall be a part of the required service by the Contractor to make such provision and if, in the judgment of the Railroad Engineer, or of the Engineer in charge in the absence of the Railroad Engineer, such provision is insufficient, the Railroad Engineer may, at the expense of the Contractor, require or provide such provision as may be deemed necessary.

Notice of Starting Work

The Contractor shall not commence any work on CSXT rights-of-way until he has complied with the following conditions:

Given CSXT written notice, referring to the agreement by date, with copy to the Governmental Agency at the addresses shown below and to the Highway Engineer who has been designated to be in charge of the work, at least ten (10) days in advance of the date he proposes to begin work on railroad rights-of-way. If flagging service is required, it may take up to thirty (30) days to obtain from the CSXT.

Obtain written authorization from the Railroad Engineer to begin work on CSXT's rights-of-way, such authorization to include an outline of specific conditions with which he must comply.

The Railroad shall furnish the names, addresses and telephone numbers of the CSXT's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

Work for the Benefit of the Contractor

No temporary or permanent changes by CSXT forces to wire lines or other facilities, which are considered necessary to the project, are anticipated or shown on the plans. If any said changes are, or become, necessary in the opinion of CSXT or the Governmental Agency, said changes will be covered by appropriate revisions to the drawing and by preparation of a force account estimate which may be initiated by either CSXT or the Governmental Agency and must be approved by both.

Should the Contractor desire any changes in addition to the above, then he shall make separate arrangements with CSXT to be accomplished at the Contractor's expense.

Haul across Railroad

If the Contractor desires access across the Railroad right-of-way and tracks at other than an existing and open public road crossing in or incident to construction of the project, CSXT will permit such Contractor access across said right-of-way and tracks. Contractor must first execute a license agreement (temporary crossing agreement) satisfactory to CSXT, wherein Contractor agrees to bear all costs related to said access.

Contractor shall at no time cross the Railroad's right-of-way and tracks with vehicles or equipment of any kind or character, except at such crossing or crossings as may be established pursuant to this subsection.

Cooperation and Delays

It shall be the Contractor's responsibility to arrange to schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging his schedule he shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore.

No charge or claims of the Contractor against either the Governmental Agency or CSXT will be allowed for hindrance or delay on account of railroad traffic. Also, any work done by CSXT or any other delay incident necessary for safe maintenance of railroad traffic or for delays due to compliance with these Special Provisions.

The Contractor shall cooperate with others participating in the construction of the project to the end that all work may be carried on to the best advantage.

The Contractor's attention is called to the fact that neither the Governmental Agency nor the CSXT assumes any responsibility for any work performed by others in connection with the construction of the project. The Contractor shall have no claim whatsoever against the Governmental Agency or CSXT for any inconvenience, delay or additional cost incurred by him on account of such operations by others.

Damages

The Contractor shall assume all liability for any and all damages to his work, employees, servants, equipment and materials caused by Railroad traffic.

Storage of Materials and Equipment

Materials and equipment shall not be stored where they will interfere neither with CSXT operations, nor on the right-of-way of the railroad without first having obtained permission from the Railroad Engineer. Such permission will be with the understanding that CSXT will not be liable for damage to such materials and equipment from any cause and that the Railroad Engineer may move, or require the Contractor to move, at the Contractor's expense. In order to minimize the possibility of damage to the railroad tracks resulting from the unauthorized use of equipment, all grading and/or other construction equipment that is left parked near the tracks unattended by watchmen shall be immobilized to the extent feasible so that it cannot be moved by unauthorized persons.

Construction Procedures

- A) Construction work on Railroad property shall be:
 - i) Subject to the inspection and approval of the Railroad.
 - ii) In accord with Railroad's written outline of specific conditions.
- B) Blasting:
 - i) Blasting will not be allowed on railroad property

- C) Maintenance of Ditches and Drainage Tracks:
- i) The Contractor will be required to maintain all ditches and drainage structures free of silt or other obstructions, which may result from his operations. Contractor will provide erosion control measures during construction. Methods used to be in accordance with State's standard specifications for road and bridge construction. Methods that can be used are: (1) silt fence; (2) hay or straw barrier; (3) berm or temporary ditches; (4) sediment basin; (5) aggregate checks; and (6) channel lining.
 - ii) All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

Flagging / Inspection Service

- A) Under the terms of the agreement between the Governmental Agency and the CSXT, the railroad has sole authority to determine the need for flagging required to protect its operations. In general, the requirements of such services will be, whenever the Contractor's men or equipment are, or are liable to be, working within specified track clearances, or over tracks.
- B) The Governmental Agency will reimburse CSXT directly for all costs of flagging which is required on account of construction within railroad right-of-way which is shown in the plans, or which is covered by an approved plan revision, supplemental agreement or change order. If Governmental Agency requires its Contractor to be responsible for reimbursing railroad for flagging service, the said Contractor will be required to make advance deposit to railroad.
- C) If the Contractor is required to reimburse the Railroad under separate arrangement between the Contractor and the Railroad for any flagging required on account of WORK FOR THE BENEFIT OF THE CONTRACTOR. If in the judgment of the Highway Engineer, any flagging service is required on account of WORK FOR THE BENEFIT OF THE CONTRACTOR, the Highway Engineer shall immediately notify the Contractor and the Railroad representative of such finding. If the Contractor disagrees with the Highway Engineer's finding, the Contractor shall have the same right of appeal as is prescribed in the contract for other items of work. If the Highway Engineer finds that flagging is required for project construction, the Highway Engineer shall so enter it into the project records as an item to be borne by the Governmental Agency.
- D) The Contractor shall give a minimum of 14 days advance notice to the Railroad's Engineer for flagging service. No work shall be undertaken until the flagman, or flagmen, are at the job site. If it is necessary for the Railroad to advertise a flagging job for bid, it may initially take up to 30 days to obtain this service.
- E) The Railroad shall have the right to assign personnel to the site of the project to perform inspection service whenever in the opinion of the Railroad Engineer, such inspection may be necessary. The costs incurred by the Railroad Company for such inspection service will be reimbursed by the Governmental Agency. Inspection service shall not relieve the Contractor from liability.
- F) If CSXT, for any reason, finds it necessary to furnish an inspector or flagman of a different classification from that shown in the Railroad estimate, bills will be rendered and shall be paid on the basis of the rate of pay for the personnel used plus standard additives whether

that is above or below the rate given. If the rate of pay of any employee to be used for inspection or flagging service is changed before the work is started or during the progress of the work, whether by law or agreement between CSXT and its employees, or if the tax rates on labor are changed, bills will be rendered by CSXT and paid by the Governmental Agency on the new rates. The Contractor's attention is also called to the fact that he will be required to carry on his operations which require flagging protection or inspection service in such a manner and sequence that the cost of such will be as economical as possible.

Cleaning Up

The Contractor will be required to observe good housekeeping and cleanup procedures throughout the project. The Contractor is to remove from within the limits of the Railroad's right-of-way, any temporary grade crossings, any temporary erosion control measures used to control drainage, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings. The right-of-way is to be left in neat condition, satisfactory to the Railroad Engineer.

Failure to Comply

In the event the Contractor violates or fails to comply with any of the requirements of these Special Provisions:

- A) The Railroad may require that the Contractor vacate Railroad Property.
- B) The Governmental Agency may be required to withhold monies due the Contractor.

Sheeting and Shoring Requirements

Shoring protection shall be provided when excavating adjacent to an active railroad track, except as noted below.

Shoring will not be required if both the following conditions are satisfied:

When the track is on level ground or in a cut section and on stable soil, excavation does not encroach upon a 1 ½ horizontal: 1 vertical theoretical slope line starting 1'-6" below top of rail and at 12'-0" minimum from centerline of the track.

When the track is on an embankment, excavating the toe of the embankment without shoring may affect the stability of the embankment. Therefore, excavation of the embankment toe without shoring will not be permitted.

Preferred protection is the cofferdam type that completely encloses the excavation. Where dictated by conditions, partial cofferdams with open sides away from the track may be used. Cofferdams shall be constructed using steel sheet piling or steel soldier beams with timber lagging. Wales and struts shall be provided as needed. The following shall be considered when designing cofferdams:

Shoring shall be designed to resist a vertical live load surcharge of 1800 lbs. per square foot, in addition to active earth pressure. The surcharge shall be assumed to act on a continuous strip, 8'-6" wide. Lateral pressures due to surcharge shall be computed using the strip load formula shown in AREMA Manual for Railway Engineering, Chapter 8, Part 20.

- A) Allowable stresses in materials shall be in accordance with AREMA Manual for Railway Engineering, Chapter 7, 8, and 15.
- B) A construction procedure for temporary shoring shall be shown on the drawing.
- C) Safety railing shall be installed when temporary shoring is within 12 feet of track.
- D) A minimum distance of 10 feet from centerline of the track to face of nearest point of shoring shall be maintained.

The contractor shall submit the following drawings and calculations for Railroad review and approval.

- A) Three (3) sets of detailed drawings of the shoring systems showing sizes of all structural members, details of connections, and distances from centerline of track to face of shoring. Drawing shall show a section showing height of shoring and track elevation in relation to bottom of excavation.
- B) One set of calculations of the shoring design.

A Licensed Professional Engineer shall prepare the drawings and calculations in State where shoring is to be constructed and each page shall bear his seal and signature. CSXT's Director of Structural Engineering shall approve shoring plans.

Where soil or rock anchors are used, all anchors must be tested. Testing shall be in accordance with industry standards with ten percent (10%) of the anchors "Performance Tested" and all others "Proof Tested". All tie-back anchor stresses are to be in accordance with AREMA.

Exploratory trenches, three (3) feet deep and fifteen (15) inches wide in the form of an "H" with outside dimensions matching the outside of sheeting dimensions are to be hand dug, prior to placing and driving steel sheeting, in areas where railroad underground installations are known to exist. These trenches are for exploratory purposes only and are to be backfilled with the backfill compacted immediately. This work must be done in the presence of CSXT's representative.

Absolute use of track is required while driving sheeting within fifteen (15) feet from centerline of a live track. The procedure for arranging the use of track shall be as outlined on pages Three, Four and Five.

Cavities adjacent to the sheet piling, created by the driving of sheet piling, shall be filled with sand and any disturbed ballast must be restored and tamped immediately in accordance with AREMA specifications.

Sheet piling shall be cut off at the top of tie during construction. After construction and backfilling has been completed, piling within ten (10) feet from centerline of track, or when bottom of excavation is below a line extending a 1:1 slope from end of tie to point of intersection with sheeting, shall be cut off eighteen (18) inches below existing ground line and left in place.

Any excavation adjacent to track shall be covered and ramped and provided with barricades as required by CSXT. A lighted walkway with a handrail, approved by CSXT, must be provided adjacent to the track for any excavation within ten (10) feet of the centerline. Final backfilling of excavation shall be as required by project specifications.

The sponsor is to advise CSXT of the time schedule of each operation and obtain approval from a CSXT representative for all work to be performed adjacent to CSXT tracks so that railroad personnel may properly supervise it.

Where physical conditions of design impose insurmountable restrictions requiring the placing of sheeting closer than specified above, the matter must be submitted to CSXT for approval of any modifications.

Five (5) copies of the submission are to be sent to CSXT's District Project Engineer. The sponsor is advised to expect a minimum thirty (30) day review period from the day the submission is received by the District Project Engineer.

CSXT's representative must be present at the site during the entire sheeting and shoring procedure period. The sponsor must notify the railroad representative at least seven (7) days in advance of the work. No changes will be accepted after that time.

Erection, Hoisting and Demolition Requirements

- A) A plan showing the locations of cranes, horizontally and vertically, operating radii, with delivery or disposal locations shown. The location of all tracks and other railroad facilities shall also be shown.
- B) Crane rating sheets showing cranes to be adequate for 150% of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, and boom nomenclature shall be submitted.
- C) Plans and computations showing weight of picks must be submitted. Where beams are being removed over CSXT facilities, the weight shall include the weight of concrete or other material that will be included in each pick. Calculations shall be made from plans of the existing and/or proposed structure showing complete and sufficient details with supporting data for the demolition or erection of the structure.
- D) If the sponsor can prove to CSXT that plans do not exist and weights must be calculated from field measurements, the field measurements are to be made under the supervision of the Licensed Professional Engineer submitting the procedure and he shall include sketches and estimated weight calculations with his procedure. If possible, field measurements shall be taken with a CSXT representative present. Weights shall include the weight of concrete or other material that will be included in the lifts.
- E) If the procedure involves either the cutting of steel or the bolting of joints, which would affect CSXT operations, a detailed staging plan with estimated duration would be required.
- F) A location plan showing all obstructions such as wires, poles, adjacent structures, etc., must be provided to show that the proposed lifts are clear of these obstructions.
- G) A data sheet shall be prepared listing the type, size and arrangements of slings, shackles, or other connecting equipment. Include copies of a catalog or information sheet for specialized equipment.
- H) A complete procedure is to be included, indicating the order of lifts and any repositioning or re-hitching of the crane or cranes.

- I) Demolition shield submittals must include a plan showing the details of the shield, a written installation and removal procedure and design calculations verifying the capacity of the shield. The shield should be designed for a minimum load of fifty (50) pounds per square feet plus the weight of the equipment, debris and any other load to be carried. All protection shields shall have the approval of the Project Engineer.
- J) Temporary support of any components (overhead or undergrade) or intermediate stages is to be shown and detailed. A guardrail (railroad) will be required to be installed in a track where a temporary bent is located within twelve (12) feet from the centerline of that track.
- K) A time schedule of the various stages must be shown as well as a schedule for the entire lifting procedure.
- L) All bridge erection or demolition procedures submitted shall be prepared, signed and sealed by a Licensed Registered Professional Engineer.
- M) Five (5) copies of the lifting procedures are to be sent to CSXT's District Project Engineer. The sponsor is to expect a minimum thirty (30) day review period from the day the submission is received by the District Project Engineer.
- N) CSXT's representative must be present at the site during the entire demolition and erection procedure period. The sponsor must notify the railroad representative at least seven (7) days in advance of the work. No changes will be accepted after that time.
- O) The name and experience of the employee supervising the operation must be supplied to CSXT.

Overhead Bridge Requirements

- A) Clearances
 - i) The minimum vertical clearance above the top of the higher rail shall be twenty-three (23) feet at all times. In areas where the Railroad has been electrified with a catenary wire, and areas that are likely to be electrified, the minimum vertical clearance must be twenty-four (24) feet, six (6) inches above the top of the higher rail.
 - ii) Whenever practicable, bridge structures must have the piers and abutments located outside of the railroad right-of-way. All piers located less than twenty five (25) feet from the centerline of track require a crashwall designed in accordance with specifications outlined in the current AREMA manual.
 - iii) All piers shall be located so that they do not interfere with ditches. Where special conditions make this impossible, an explanation of these conditions must be submitted with the drainage plans for review by CSXT.
 - iv) The permanent clearances shall be correlated with the methods of construction so that temporary construction clearances will not be less than the minimum allowed.
 - v) Bridge structures shall provide sufficient lateral and vertical clearance for anticipated future tracks s may be defined by requirements by CSXT, changes

in track centers and raising of tracks for maintenance purposes. The locations of these tracks shall be determined by inquiry to CSXT.

- vi) The profile of the top of rail should be examined to determine if the track is in a sag at the location of the bridge. If the track is in a sag, the vertical clearance from the track to the bridge should be increased sufficiently to allow raising the track to remove the sag.
- vii) Plans for bridges must show dimensioned locations of all utilities, which might be located on the railroad right-of-way.
- viii) Vertical and horizontal clearances must be adjusted so that the sight distance to railroad's wayside signals is not reduced from what is existing.
- ix) All proposed temporary clearances, which are less than those listed above, must be submitted to CSXT for review and must be approved by CSXT prior to construction.
- x) Clearances are subject to the requirements of the state in which the construction takes place and must be approved by the State and CSXT if less than those prescribed by law.

Drainage

- A) Maintaining the existing drainage and providing for future drainage improvements is of the utmost importance. CSXT will give special attention to reviewing drainage details.
- B) Drainage plans must be included with the general plans submitted to CSXT for approval. These plans must include hydrologic and hydraulic studies and computations showing the frequency and duration of the design storm used, as well as the method of analysis such as Soil Conservation Service or the Rational method. CSXT uses storms with a 100-year recurrence interval as the minimum design storm.
- C) Lateral clearances must provide sufficient space for construction of the required track ditch parallel to the standard roadbed section. If the ditch cannot be provided, or the pier will interfere with the ditch, then a culvert of sufficient size must be provided.
- D) Ditches and culverts must be sized to accommodate all increased run-off due to the construction and the increased size must continue to the natural outlet of the ditch. Ditches must be designed in accordance with good drainage engineering practices and must meet all local codes and ordinances.
- E) No scuppers or other deck drains, roadway drainage, catch basins, inlets or outlets are permitted to drain onto CSXT property. Any variation of this policy must have the prior approval of CSXT. If an exception is ultimately granted, maintenance of such will not be CSXT's. Drainage from scuppers and deck drains must be conveyed through pipes, referable to a point that is off CSXT property. If the drainage must be conveyed into a railroad ditch, calculations must be provided to CSXT, which indicate the ability of the ditch to carry the additional run-off.
- F) Additional drainage may require the installation of a pipe or pipes, new ditch or reprofiling of the existing ditch.

Erosion Control

- A) Embankment slopes on CSXT property adjacent to the track must have a slope of 2:1 or less and be paved for a minimum of two (2) feet beyond the outside edge of the bridge foundation structure. The purpose of the pavement is to minimize erosion of the embankment material and to reduce deterioration of the sub-grade material by drainage water. The pavement shall consist of a prepared sub-base and/or filter fabric with grouted rip-rap on the surface.
- B) The general plans for the bridge should indicate the proposed methods of erosion control during construction and must specifically address means to prevent silt accumulation in ditches and culverts and to prevent fouling the track ballast and sub-ballast. If the plans do not show erosion control, the contractor must submit a proposed method of erosion control and must have this method approved by CSXT prior to beginning any grading on the site.
- C) Existing track ditches must be maintained at all times throughout the construction period. After the construction has been completed, all erosion and siltation must be removed and the ditches must be restored.
- D) CSXT's approval of drainage and erosion control plans will not relieve the sponsor submitting these plans from ultimate responsibility for a satisfactory plan.

Additional References

- A) In areas where underground utilities may be affected, CSXT's, "Specifications for Pipeline Occupancy" will govern.
- B) In areas where power or communication lines will be affected, CSXT's, "Specifications for Wire, Conduit and Cable Occupations" will govern.